// BYU ECEN 323 Assembler version 1.0

// The memory map in HEX:

//0x0 <Main>:

3404000a // 0x0: ori 4, 0, 10

34010001 // 0x4: ori 1, 0, 1

201d1ffc // 0x8: addi $sp, $zero, 8188

201e1ffc // 0xc: addi $fp, $zero, 8188

0c000005 // 0x10: jal Fib

//0x14 <Fib>:

14240003 // 0x14: bne 4, 1, Fib\_recurse

00801020 // 0x18: add 2, 4, $zero

03e00008 // 0x1c: jr 31

//0x20 <End>:

08000008 // 0x20: j End

//0x24 <Fib\_recurse>:

23bdfff4 // 0x24: addi 29, 29, -12

afbf0000 // 0x28: sw 31, 0($sp)

afa40004 // 0x2c: sw 4, 4($sp)

2084ffff // 0x30: addi 4, 4, -1

0c000005 // 0x34: jal Fib

8fa40004 // 0x38: lw 4, 4($sp)

afa20008 // 0x3c: sw 2, 8($sp)

2084fffe // 0x40: addi 4, 4, -2

0c000005 // 0x44: jal Fib

8fa80008 // 0x48: lw 8, 8(29)

00481020 // 0x4c: add 2, 2, 8

8fbf0000 // 0x50: lw 31, 0(29)

23bd000c // 0x54: addi 29, 29, 12

03e00008 // 0x58: jr 31

//0x400 <Data>:

// The label list is: {'Fib': '20', 'Data': '1024', 'Main': '0', 'End': '32', 'Fib\_recurse': '36'}

// The memory map in HEX:

//20010001 // 0x0: addi 1, 0, 1

//00211020 // 0x4: add 2, 1, 1

//00411822 // 0x8: sub 3, 2, 1

//0022202a // 0xc: slt 4, 1, 2

//2045fffd // 0x10: addi 5, 2, -3

//30a5ff00 // 0x14: andi 5, 5, 65280

//34a5000f // 0x18: ori 5, 5, 15

//00a52820 // 0x1c: add 5, 5, 5

//20061000 // 0x20: addi 6, 0, 4096

//8cc70000 // 0x24: lw 7, 0($a2)

//00e24020 // 0x28: add 8, 7, 2

//acc80004 // 0x2c: sw 8, 4($a2)

//0041482a // 0x30: slt 9, 2, 1

//00a85025 // 0x34: or 10, 5, 8

//00c25827 // 0x38: nor 11, 6, 2

//340c0000 // 0x3c: ori 12, 0, 0

//340d0002 // 0x40: ori 13, 0, 2

//0x44 <LOOP>:

//11ac0015 // 0x44: beq 12, 13, DONE

//218c0001 // 0x48: addi 12, 12, 1

//218c0001 // 0x4c: addi 12, 12, 1

//218c0001 // 0x50: addi 12, 12, 1

//10000005 // 0x54: beq 0, 0, JUMP\_TEST

//218c0001 // 0x58: addi 12, 12, 1

//218c0001 // 0x5c: addi 12, 12, 1

//218c0001 // 0x60: addi 12, 12, 1

//218c0001 // 0x64: addi 12, 12, 1

//218c0001 // 0x68: addi 12, 12, 1

//0x6c <JUMP\_TEST>:

//218c0001 // 0x6c: addi 12, 12, 1

//08000020 // 0x70: j JUMP\_TARGET1

//218c0001 // 0x74: addi 12, 12, 1

//218c0001 // 0x78: addi 12, 12, 1

//218c0001 // 0x7c: addi 12, 12, 1

//0x80 <JUMP\_TARGET1>:

//218c0001 // 0x80: addi 12, 12, 1

//0c000028 // 0x84: jal SUBROUTINE

//08000023 // 0x88: j BNE\_TEST

//0x8c <BNE\_TEST>:

//340d0001 // 0x8c: ori 13, 0, 1

//14000002 // 0x90: bne 0, 0, DONE

//15a00001 // 0x94: bne 0, 13, DONE

//08000023 // 0x98: j BNE\_TEST

//0x9c <DONE>:

//08000027 // 0x9c: j DONE

//0xa0 <SUBROUTINE>:

//218c0001 // 0xa0: addi 12, 12, 1

//01816022 // 0xa4: sub 12, 12, 1

//03e00008 // 0xa8: jr 31

//fc000000 // 0xac: nop 0, 0, 0

//00429020 // 0xb0: add 18, 2, 2

//fc000000 // 0xb4: nop 0, 0, 0

//fc000000 // 0xb8: nop 0, 0, 0

//0x1000 <Data>:

// The label list is: {'JUMP\_TARGET1': '128', 'SUBROUTINE': '160', 'BNE\_TEST': '140', 'JUMP\_TEST': '108', 'DONE': '156', 'Data': '4096', 'LOOP': '68'}